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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,372	11/21/2001	Richard H. Lane	M4065.0338/P338-A	1348

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DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L STREET NW
WASHINGTON, DC 20037-1526

EXAMINER
DOAN, THERESA T

ART UNIT	PAPER NUMBER
2814	

DATE MAILED: 03/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/989,372	LANE, RICHARD H.	
	Examiner	Art Unit	
	Theresa T Doan	2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *29-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *29-32, 34-39, 41-47 and 49-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Request for Continued Examination

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. An action on the RCE follows.

The amendment filed on 02/10/03 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 29-32, 34-39, 41-47 and 49-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dornfest et al. (6,358,810).

Regarding claims 29-32, 35-39, 42-43, 45-47 and 50, Dornfest et al. teach in figures 2 and 6 a memory cell comprising:

a conductive layer 44 provided over a semiconductor substrate;

a platinum metal layer 50 forms a lower capacitor electrode that provided over the conductive layer 44, the metal layer having a thickness of approximately 200-4000 angstroms (figure 2, column 6, lines 5-7);

a transistor in electrical communication with the metal layer 50, the transistor including a gate fabricated on the semiconductor substrate and including a source/drain region in the semiconductor substrate disposed adjacent to the gate (column 4, lines 18-23); and

a capacitor including an electrode, the electrode being in electrical contact with the source/drain region.

Regarding the process limitation recited in claims 29-32, 34-39, 41-42, 44-47 and 49-50 (an electro-polished patterned), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced.

Note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process"

claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear. See also MPEP 706.03(e).

Regarding claims 34, 41 and 49, Dornfest et al. do not teach a metal layer has a thickness of approximately 100 Å. However, in column 6, lines 5-7 of Dornfest et al. teach a metal layer 50 has a thickness of about 200-4000 Å. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to apply the thickness of metal layer of instant invention in Dornfest et al.'s device, since it has been held where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corporation of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed, Cir. 1985).*

Regarding claim 44, as discussed claims 29 and 36 above, Dornfest et al. do not teach a processor-based system. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a memory cell into a processor-based system in order to operate the device in its intended use. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Regarding claim 52, Dornfest et al. teach the memory module is a DRAM memory (see Abstraction).

Regarding claims 51 and 53-54, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the teaching of Dornfest et al.'s device to fabricate specific memory module such as a SRAM memory or a MCM memory, since it is a matter of design choice within the skills of an artisan, subject to achieve its performance criteria.

4. Claims 29-32, 35-39, 42-43, 45-47 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki et al. (6,033,953).

Aoki et al. teach in figures 2A-6 a memory cell comprising:

a conductive layer 39 provided over a semiconductor substrate 1;

an electropolished patterned platinum metal layer 38 forms a lower capacitor electrode that provided over the conductive layer 39, the electropolished patterned platinum metal layer having a thickness of approximately 1000 angstroms (figure 6, column 4, lines 15-36 and column 5, lines 1-51);

a transistor in electrical communication with the electropolished patterned platinum metal layer 38, the transistor including a gate 6 fabricated on the semiconductor substrate and including a source/drain regions (3,4) in the semiconductor substrate disposed adjacent to the gate (see figure 6); and

a capacitor including an electrode, the electrode being in electrical contact with the source/drain region.

Aoki et al. do not teach an electropolished patterned platinum metal layer having a thickness of approximately 50-300 Å. However, in column 4, lines 15-36 of Aoki et al.

teach the electropolished patterned platinum metal layer having a thickness of approximately 1000 Å. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to apply the thickness of metal layer of instant invention in Aoki et al.'s device, since it has been held where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corporation of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed, Cir. 1985).*

5. Claims 29-32, 34-39, 41-47 and 49-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okutoh et al. (6,201,271).

Okutoh et al. teach in figure 8 a memory cell comprising:

a conductive layer 20 provided over a semiconductor substrate 1;

a platinum-rhodium metal oxide layer 21 forms a lower capacitor electrode that provided over the conductive layer 20, the platinum-rhodium metal oxide layer 21 having a thickness of 300 angstroms (figure 8, column 8, lines 63-64);

a transistor in electrical communication with the platinum-rhodium metal oxide layer 21, the transistor including a gate fabricated on the semiconductor substrate and including a source/drain region in the semiconductor substrate disposed adjacent to the gate; and

a capacitor including an electrode, the electrode being in electrical contact with the source/drain region.

Regarding the process limitation recited in claims 29-32, 34-39, 41-42, 44-47 and 49-50 (an electro-polished patterned), these would not carry patentable weight in this claim drawn to a structure, because distinct structure is not necessarily produced.

Note that a "product by process" claim is directed to the product per se, no matter how actually made, In re Hirao, 190 USPQ 15 at 17 (footnote 3). See also In re Brown, 173 USPQ 685; In re Luck, 177 USPQ 523; In re Fessmann, 180 USPQ 324; In re Avery, 186 USPQ 161; In re Wertheim, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and In re Marosi et al., 218 USPQ 289; and particularly In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985), all of which make it clear that it is the patentability of the final product per se which must be determined in a "product by process" claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in "product by process" claims or not. Note that the applicant has the burden of proof in such cases, as the above case law makes clear. See also MPEP 706.03(e).

Response to Arguments

Applicant's arguments with respect to claims 29-32, 34-39, 41-47 and 49-54 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, addressed to the amended claims are considered in the rejections shown above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T Doan whose telephone number is (703) 305-2366. The examiner can normally be reached on Monday to Thursday from 8:00AM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

TD
February 26, 2003

PHAT X. CAO
PRIMARY EXAMINER